

Patent Claims

1. Method for the operation of electric gas discharge lamp (3), e.g., of an UV low-pressure tube, in artificial sunning and irradiation devices characterized by the following features:

a) the characteristic data for the individual gas discharge lamp (3) with respect to the decrease in the light output or radiation output are stored in an electronic storage depending on the total operating duration of the gas discharge lamp (3),

b) the respective individual operating duration of the gas discharge lamp (3) is measured and added to the preceding individual operating durations in order to obtain the total operating duration of the individual gas discharge lamp, and

c) the electric output to be supplied to the gas discharge lamp (3) at a given time is automatically adjusted depending on the stored characteristic data with respect to the decrease in light output and radiation output and the respective total operating duration of the gas discharge lamp (3) for obtaining a predetermined light output or radiation output, e.g., a light output or radiation output remaining at least approximately constant.

a 2. Method according to claim 1, <sup>wherein</sup> ~~characterized in that~~ relevant data of the ballast device (3a to 5c) which is to be used/which is used will be/are stored in the electronic

storage in addition to the characteristic data with respect to the decrease in the light output or radiation output of the gas discharge lamp (3).

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3. Method according to claim 1, characterized in that the electric output to be supplied to the gas discharge lamp (3) is adjusted in such a way ~~that it~~ <sup>wherein</sup> is smaller by a certain fraction, for example, about 10% smaller, than the electric nominal output of the lighting means.

*a*

4. Method according to claim 1, ~~characterized in that~~ <sup>wherein</sup> the control signals required for adjusting the respective electric output to be emitted at the gas discharge lamp (3) are supplied in digital form to the ballast device 5a to 5c associated with the gas discharge lamp (3).

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5. Method according to claim 1, ~~characterized in that~~ <sup>wherein</sup> the control signals required for adjusting the respective electric output to be emitted at the gas discharge lamp (3) are supplied in analog form to the ballast device associated with the gas discharge lamp (3).

*a*  
*a*

6. Method according to claim 3 or 4, ~~characterized in that~~ <sup>wherein</sup> the control signals are current-modulated.

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7. Method according to claim 3 or 4, <sup>wherein</sup> ~~characterized in~~  
~~that~~ the control signals are voltage-modulated.

a  
a  
8. Method according to claim 3 or 4, <sup>wherein</sup> ~~characterized in~~  
~~that~~ the control signals are frequency-modulated.

9. Circuit arrangement for carrying out the method according to claim 1, characterized by electric or electronic controlling means (1) containing a storage for characteristic data of the gas discharge lamp (3) and located in the circuit of the gas discharge lamp (3) for adjusting an electric output to be supplied to the gas discharge lamp (3) for the purpose of obtaining a predetermined light output or radiation output of the gas discharge lamp (3), e.g., a light output or radiation output remaining at least approximately constant, within predetermined limits, and by time-measuring means for the total operating duration of the gas discharge lamp (3), which time-measuring means are associated with the gas discharge lamp (3) and are electrically connected with the above-mentioned controlling means for the purpose of adjusting the electric output to be supplied to the gas discharge lamp (3) in dependence on the total operating duration of the gas discharge lamp (3).

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10. Circuit arrangement according to claim 9, <sup>wherein</sup> ~~characterized in that~~ the electric or electronic controlling means comprise, apart from an electronic processor, a storage

receiving characteristic data of the gas discharge lamp (3), and time-measuring means, an electronic ballast device (5a to 5c) with adjustable output power.

a 11. Circuit arrangement according to claim 10,  
~~wherein~~  
~~characterized in that~~ the electronic ballast device (5a to 5c) is designed for processing control signals which contain, in the form of a frequency, the information pertaining to the electric output to be supplied to the gas discharge lamp.

a 12. Circuit arrangement according to claim 10,  
~~wherein~~  
~~characterized in that~~ the electronic ballast device (5a to 5c) is designed for processing control signals which contain, in the form of a voltage, the information pertaining to the electric output to be supplied to the gas discharge lamp (3).

a 13. Circuit arrangement according to claim 10,  
~~wherein~~  
~~characterized in that~~ the electronic ballast device (5a to 5c) is designed for processing control signals which contain, in the form of a current, the information pertaining to the electric output to be supplied to the gas discharge lamp (3).

a 14. Circuit arrangement according to claim 11,  
~~wherein~~  
~~characterized in that~~ the time-measuring means for the total operating duration of the gas discharge lamp (3) are connected with adjusting means for the initialization of the time measurement.

a 15. Circuit arrangement according to claim 13,  
<sup>wherein</sup>  
~~characterized in that~~ the adjusting means can be manually  
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actuated for the initialization of the time measurement.

a 16. Circuit arrangement according to claim 13,  
<sup>wherein</sup>  
~~characterized in that~~ the adjusting means for the  
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initialization of the time measurement are arranged adjacent  
to the gas discharge lamp (3) which is fastened or can be  
fastened in an enclosure or the like and the adjusting means  
can be actuated together with a movement of the gas discharge  
lamp (3) into the enclosure or out of the enclosure or the  
like.

a 17. Circuit arrangement according to claim 9,  
<sup>wherein</sup>  
~~characterized in that~~ the controlling means for the adjustment  
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of the electric output to be supplied to the gas discharge  
lamp (3) and/or the time-measuring means associated with the  
lighting means are connected with an optic and/or acoustic  
signal device for signaling the given total operating duration  
achieved by the lighting means.